

WHAT IS CLAIMED IS:

- 1 1. A method comprising:
 - 2 determining a first specification for a first set of storage regions, wherein
 - 3 the first set of storage regions is needed to perform an operation on a logical volume,
 - 4 and
 - 5 the first set of storage regions satisfies an intent of the logical volume;
 - 6 searching a plurality of existing storage regions for a corresponding storage region for each
 - 7 storage region in the first set of storage regions; and
 - 8 if no existing storage region is found corresponding to a first storage region in the first set of
 - 9 storage regions,
 - 10 determining a second specification for a second set of storage regions.
 - 1 2. The method of claim 1 wherein
 - 2 the second set of storage regions comprises at least the first storage region.
 - 1 3. The method of claim 2 wherein
 - 2 the second specification for the second set of storage regions comprises
 - 3 an attribute of the first storage region, and
 - 4 a connection between the first storage region and a storage object in the logical
 - 5 volume.
 - 1 4. The method of claim 3 further comprising:
 - 2 using the second specification to acquire a third set of storage regions.
 - 1 5. The method of claim 4 wherein
 - 2 the third set of storage regions is a subset of the second set of storage regions.
 - 1 6. The method of claim 3 further comprising:
 - 2 acquiring the second set of storage regions; and
 - 3 performing the operation on the logical volume using the second set of storage regions.
 - 1 7. The method of claim 3 wherein
 - 2 the second set of storage regions satisfies the intent of the logical volume

1 8. The method of claim 3 further comprising:
2 determining a third specification, wherein
3 the determining the third specification comprises specifying an existing storage region of the
4 plurality of existing storage regions to reserve for performing the operation.

1 9. The method of claim 3 wherein
2 the second set of storage regions excludes a second storage region for which an existing
3 storage region of the plurality of existing storage regions is found.

1 10. The method of claim 3 wherein
2 the operation comprises increasing a size of the logical volume.

1 11. The method of claim 3 wherein
2 the operation comprises evacuating data from the logical volume.

1 12. The method of claim 3 wherein
2 the operation comprises relocating data of the logical volume.

1 13. A system comprising:
2 first determining means for determining a first specification for a first set of storage regions,
3 wherein
4 the first set of storage regions is needed to perform an operation on a logical volume,
5 and
6 the first set of storage regions satisfies an intent of the logical volume;
7 searching means for searching a plurality of existing storage regions for a corresponding
8 storage region for each storage region in the first set of storage regions; and
9 second determining means for determining a second specification for a second set of storage
10 regions if no existing storage region is found corresponding to a first storage region in
11 the first set of storage regions.

1 14. The system of claim 13 further comprising:
2 using means for using the second specification to acquire a third set of storage regions.

1 15. The system of claim 14 wherein
2 the third set of storage regions is a subset of the second set of storage regions.

1 16. The system of claim 14 further comprising:
2 acquiring means for acquiring the second set of storage regions; and
3 performing means for performing the operation on the logical volume using the second set of
4 storage regions.

1 17. The system of claim 14 further comprising:
2 third determining means for determining a third specification, wherein
3 the determining the third specification comprises specifying an existing storage region
4 of the plurality of existing storage regions to reserve for performing the
5 operation.

1 18. A system comprising:
2 a first determining module configured to determine a first specification for a first set of
3 storage regions, wherein
4 the first set of storage regions is needed to perform an operation on a logical volume,
5 and
6 the first set of storage regions satisfies an intent of the logical volume;
7 a searching module configured to search a plurality of existing storage regions for a
8 corresponding storage region for each storage region in the first set of storage regions;
9 and
10 a second determining module configured to determine a second specification for a second set
11 of storage regions if no existing storage region is found corresponding to a first
12 storage region in the first set of storage regions.

1 19. The system of claim 18 wherein
2 the second set of storage regions comprises at least the first storage region.

1 20. The system of claim 19 wherein
2 the second specification for the second set of storage regions comprises
3 an attribute of the first storage region, and
4 a connection between the first storage region and a storage object in the logical
5 volume.

1 21. The system of claim 20 further comprising:
2 an acquiring module configured to acquire the second set of storage regions; and
3 a performing module configured to perform the operation on the logical volume using the
4 second set of storage regions.

1 22. The system of claim 20 further comprising:
2 a third determining module configured to determine a third specification, wherein
3 the determining the third specification comprises specifying an existing storage region
4 of the plurality of existing storage regions to reserve for performing the
5 operation.

1 23. A computer-readable medium comprising:
2 first determining instructions configured to determine a first specification for a first set of
3 storage regions, wherein
4 the first set of storage regions is needed to perform an operation on a logical volume,
5 and
6 the first set of storage regions satisfies an intent of the logical volume;
7 searching instructions configured to search a plurality of existing storage regions for a
8 corresponding storage region for each storage region in the first set of storage regions;
9 and
10 second determining instructions configured to determine a second specification for a second
11 set of storage regions if no existing storage region is found corresponding to a first
12 storage region in the first set of storage regions.

1 24. The computer-readable medium of claim 23 wherein
2 the second set of storage regions comprises at least the first storage region.

1 25. The computer-readable medium of claim 24 wherein
2 the second specification for the second set of storage regions comprises
3 an attribute of the first storage region, and
4 a connection between the first storage region and a storage object in the logical
5 volume.

1 26. The computer-readable medium of claim 25 further comprising:
2 acquiring instructions configured to acquire the second set of storage regions; and
3 performing instructions configured to perform the operation on the logical volume using the
4 second set of storage regions.

1 27. The computer-readable medium of claim 25 further comprising:
2 third determining instructions configured to determine a third specification, wherein
3 the determining the third specification comprises specifying an existing storage region
4 of the plurality of existing storage regions to reserve for performing the
5 operation.

1 28. A computer system comprising:
2 a processor; and
3 the computer-readable medium of claim 25.